

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-21. (Canceled)

22. (Currently Amended) A guide wire comprising:
an elongate core ~~composed of a nickel-titanium alloy~~ including a proximal end and a distal end;
a continuous, unitary coil exhibiting an outer diameter and an inner diameter, composed of a second material, surrounding a portion of the core, and extending beyond the distal end of the core by at least three ~~a plurality of~~ non-contacting turns of the coil; and
a polymeric tip contacting and extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material provided within spaces between adjacent non-contacting turns of the coil such that the polymeric material encloses at least an area inside the inner diameter of the coil and up to the outer diameter of the coil.

23. (Canceled)

24. (Canceled)

25. (Previously Presented) The guide wire of claim 22, wherein the coil surrounds the entire length of the core.

26. (Canceled)

27. (Canceled)

28. (Currently Amended) A guide wire comprising:
an elongate core ~~composed of a nickel-titanium alloy including~~ defining a proximal end and a distal end;
a continuous, unitary coil exhibiting an outer diameter and an inner diameter, ~~composed of a second material comprising stainless steel, surrounding a portion of the core, and extending beyond the distal end of the core by a plurality of non-contacting turns of the coil~~ surrounding a portion of the core, with a portion of the coil extending beyond the distal end of the core by a plurality of turns of the coil, the inner diameter of the coil defining an internal area inside the coil along the portion of the coil that extends beyond the core; and
a ~~polymeric tip~~ polymer contacting and ~~extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material provided within spaces between adjacent non-contacting turns of the coil such that the polymeric material encloses at least an area inside the inner diameter of the coil and up to the~~

~~outer diameter of the coil~~ the distal end of the core and entirely filling the internal area,
without extending beyond a distal end of the coil; and
a metal tip extending from a distal end of the polymer and contacting a
distal surface of the coil.

29. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a proximal
end and a distal end;

a continuous, unitary coil exhibiting an outer diameter and an inner
diameter, ~~composed of a second material comprising a precipitation hardenable alloy,~~
~~surrounding a portion of the core, and extending beyond the distal end of the core by a~~
~~plurality of non-contacting turns of the coil; and~~

~~a polymeric tip contacting and extending from a distal portion of the coil,~~
~~wherein the tip connects to the core by a polymeric material provided within spaces~~
~~between adjacent non-contacting turns of the coil such that the polymeric material~~
~~encloses at least an area inside the inner diameter of the coil and up to the outer~~
~~diameter of the coil~~ surrounding a portion of the core, the inner diameter of the coil
defining an internal area inside the coil;

a first polymer contacting the core and at least partially filling the internal
area, without extending beyond a distal end of the coil; and

a second polymer defining a tip and extending from a distal end of the first
polymer and contacting a distal surface of the coil.

30. (Previously Presented) The guide wire of claim 22, wherein the distal portion of the core is tapered.

31. (Canceled)

32. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a proximal end and a distal end;

a continuous, unitary coil exhibiting an outer diameter and an inner diameter, composed of a second material, surrounding a portion of the core, ~~and extending beyond the distal end of the core by a plurality of non-contacting turns of the coil; and~~

~~a polymeric tip, including a radio-opaque material, contacting and extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material provided within spaces between adjacent non-contacting turns of the coil such that the polymeric material encloses at least an area inside the inner diameter of the coil and up to the outer diameter of the coil, the inner diameter of the coil defining an internal area inside the coil;~~

a polymer contacting the core and at least partially filling the internal area, without extending beyond a distal end of the coil;

a tip extending from a distal end of the polymer and contacting a distal surface of the coil; and
wherein the core is not tapered along its distal portion.

33. (Currently Amended) A guide wire comprising:
- an elongate core composed of a nickel-titanium alloy including a proximal end and a distal end;
- a continuous, unitary coil exhibiting an outer diameter and an inner diameter, composed of a second material, surrounding a portion of the core, and extending beyond the distal end of the core, the coil having a pitch that varies at least once along the coil; and
- a polymeric tip contacting and extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material provided within spaces between at least three adjacent non-contacting turns of the coil such that the polymeric material encloses at least an area inside the inner diameter of the coil and up to the outer diameter of the coil.

34. (Previously Presented) The guide wire of claim 22, wherein the coil comprises a coating.

35. (Previously Presented) The guide wire of claim 34, wherein the coating is lubricious.

36. (Previously Presented) The guide wire of claim 34, wherein the coating is colored.

37. (Previously Presented) The guide wire of claim 22, wherein the coil comprises a rectangular cross-section.

38. (Currently Amended) A guide wire comprising:

~~an elongate core composed of a nickel-titanium alloy including~~ defining a proximal end and a distal end;

a continuous, unitary coil having a circular cross-section, exhibiting an outer diameter and an inner diameter, ~~composed of a second material, surrounding a portion of the core, and extending beyond the distal end of the core by a plurality of non-contacting turns of the coil; and~~

~~a polymeric tip contacting and extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material provided within spaces between adjacent non-contacting turns of the coil such that the polymeric material encloses at least an area inside the inner diameter of the coil and up to the outer diameter of the coil~~ surrounding a portion of the core, with a portion of the coil extending beyond the distal end of the core by a plurality of turns of the coil, the inner diameter of

the coil defining an internal area inside the coil along the portion of the coil that extends beyond the core;

a polymer contacting the distal end of the core and entirely filling the internal area, without extending beyond a distal end of the coil; and

a metal tip extending from a distal end of the polymer and contacting a distal surface of the coil.

39. (Previously Presented) The guide wire of claim 22, wherein the coil comprises a multifilar wire.

40-56. (Canceled)

57. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a length, a proximal portion, a distal end, and a constant diameter along the length;
a continuous, unitary coil exhibiting an outer diameter and an inner diameter composed of a second material and that surrounds and extends along the length of the core ~~and beyond the distal end of the core by a plurality of turns of the coil, the plurality of the turns including non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns; and~~
~~a polymeric tip extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the~~

~~adjacent turns of the coil, the inner diameter of the coil defining an internal area inside~~
the coil;

a first polymer contacting the core and at least partially filling the internal
area, without extending beyond a distal end of the coil; and

a second polymer defining a tip and extending from a distal end of the first
polymer and contacting a distal surface of the coil.

58. (Previously Presented) The guide wire of claim 57, wherein the coil surrounds the entire length of the core.

59. (Canceled)

60. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a length, a proximal portion, a distal end and a constant diameter along the length;
a continuous, unitary coil exhibiting an outer diameter and an inner diameter composed of a second material comprising stainless steel and that surrounds a portion of the core ~~and extends beyond the distal end of the core by a plurality of turns of the coil, the plurality of the turns including non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns; and~~
~~a polymeric tip extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the~~

adjacent turns of the coil , the inner diameter of the coil defining an internal area inside the coil;

a polymer contacting the core and at least partially filling the internal area, without extending beyond a distal end of the coil;

a tip extending from a distal end of the polymer and contacting a distal surface of the coil; and

wherein the core is not tapered along its distal portion.

61. (Currently Amended) A guide wire comprising:

an elongate core composed of a nickel-titanium alloy including a length, a proximal portion, a distal end and a constant diameter along the length;

a continuous, unitary coil composed of a second material comprising a precipitation hardenable alloy and that surrounds a portion of the core and extends beyond the distal end of the core by ~~a plurality of~~ at least three turns of the coil, the ~~plurality of the~~ at least three turns ~~including~~ comprised of non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns; and

a polymeric tip extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the adjacent turns of the coil.

62. (Currently Amended) A guide wire comprising:

an elongate core composed of a nickel-titanium alloy including a length, a proximal portion, a distal end, and a constant diameter along the length;

a continuous, unitary coil composed of a second material and that surrounds a portion of the core ~~and extends beyond the distal end of the core by a plurality of turns of the coil, the plurality of the turns including non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns; and~~

~~a polymeric tip including a radio-opaque material and extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the adjacent turns of the coil, with a portion of the~~
coil extending beyond the distal end of the core by a plurality of turns of the coil, the inner diameter of the coil defining an internal area inside the coil along the portion of the coil that extends beyond the core; and

a polymer contacting the distal end of the core and entirely filling the internal area, without extending beyond a distal end of the coil; and

a metal tip extending from a distal end of the polymer and contacting a distal surface of the coil.

63. (Previously Presented) The guide wire of claim 57, wherein the coil comprises a pitch that varies at least once along the length of the core.

64. (Previously Presented) The guide wire of claim 57, wherein the coil comprises a coating.

65. (Previously Presented) The guide wire of claim 64, wherein the coating is lubricious.

66. (Previously Presented) The guide wire of claim 64, wherein the coating is colored.

67. (Previously Presented) The guide wire of claim 57, wherein the coil comprises a rectangular cross-section.

68. (Previously Presented) The guide wire of claim 57, wherein the coil comprises a circular cross-section.

69. (Previously Presented) The guide wire of claim 57, wherein the coil comprises a multifilar wire.

70. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a proximal end and a distal end;
a continuous, unitary coil exhibiting an outer diameter and an inner diameter composed of a second material and that surrounds a portion of the core ~~and extends beyond the distal end of the core by a plurality of turns of the coil, the plurality~~

~~of the turns including non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns,~~

wherein the coil comprises a first coil portion having a first pitch and a second coil portion having a second pitch greater than the first pitch; [[and]]

~~a polymeric tip extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the adjacent turns of the coil~~

the inner diameter of the coil defining an internal area inside the coil;

a first polymer contacting the core and at least partially filling the internal area, without extending beyond a distal end of the coil; and

a second polymer defining a tip and extending from a distal end of the first polymer and contacting a distal surface of the coil.

71. (Previously Presented) The guide wire of claim 70, wherein the second coil portion surrounds the distal end of the core.

72. (Previously Presented) The guide wire of claim 70, wherein the coil surrounds the entire length of the core.

73. (Previously Presented) The guide wire of claim 70, wherein the coil extends along the core from the portion of the core near the proximal end of the core to a portion of the core near a distal end of the core.

74. (Previously Presented) The guide wire of claim 70, wherein the second material comprises stainless steel.

75. (Previously Presented) The guide wire of claim 70, wherein the second material comprises a precipitation hardenable alloy.

76. (Previously Presented) The guide wire of claim 70, wherein a distal portion of the core is tapered.

77. (Previously Presented) The guide wire of claim 70, wherein the tip includes a radio-opaque material.

78. (Previously Presented) The guide wire of claim 70, wherein the coil comprises a coating.

79. (Previously Presented) The guide wire of claim 78, wherein the coating is lubricious.

80. (Previously Presented) The guide wire of claim 78, wherein the coating is colored.

81. (Previously Presented) The guide wire of claim 70, wherein the coil comprises a rectangular cross-section.

82. (Previously Presented) The guide wire of claim 70, wherein the coil comprises a circular cross-section.

83. (Previously Presented) The guide wire of claim 70, wherein the coil comprises a multifilar wire.

84. (Currently Amended) A guide wire comprising:
an elongate core composed of a nickel-titanium alloy including a proximal end and a distal end;
a continuous coil exhibiting an outer diameter and an inner diameter composed of a second material and that surrounds a portion of the core ~~and extends beyond the distal end of the core by a plurality of turns of the coil, the plurality of the turns including non-contacting adjacent turns defining spaces extending to an outer diameter of the adjacent turns; and a polymeric tip extending from a distal portion of the coil, wherein the tip connects to the core by a polymeric material that entirely fills said spaces between the adjacent turns of the coil,~~ the inner diameter of the coil defining an internal area inside the coil;
a polymer contacting the core and at least partially filling the internal area,
without extending beyond a distal end of the coil;

a tip extending from a distal end of the polymer and contacting a distal surface of the coil; and
wherein the core is not tapered along its distal portion.

85. (Previously Presented) The guide wire of claim 84, wherein the coil surrounds the entire length of the core.

86. (Previously Presented) The guide wire of claim 84, wherein the tip includes a radio-opaque material.

87. (Previously Presented) The guide wire of claim 84, wherein the coil comprises a coating.

88. (Previously Presented) The guide wire of claim 84, wherein the coil comprises a rectangular cross-section.

89. (Previously Presented) The guide wire of claim 57, wherein the polymeric tip is in contact with a distal portion of the coil.

90-95. (Canceled)

96. (Previously Presented) The guide wire of claim 84, wherein the coil comprises a multifilar wire.

97. (Canceled)

98. (New) The guide wire of claim 29, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

99. (New) The guide wire of claim 98, wherein the first polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

100. (New) The guide wire of claim 29, wherein the core is not tapered along its distal portion.

101. (New) The guide wire of claim 32, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

102. (New) The guide wire of claim 101, wherein the polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

103. (New) The guide wire of claim 101, wherein the portion of the coil extending beyond the distal end of the core has a pitch different from a remaining portion of the coil.

104. (New) The guide wire of claim 57, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

105. (New) The guide wire of claim 104, wherein the first polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

106. (New) The guide wire of claim 57, wherein the core is not tapered along its distal portion.

108. (New) The guide wire of claim 60, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

109. (New) The guide wire of claim 108, wherein the polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

110. (New) The guide wire of claim 108, wherein the portion of the coil extending beyond the distal end of the core has a pitch different from a remaining portion of the coil.

111. (New) The guide wire of claim 70, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

112. (New) The guide wire of claim 111, wherein the first polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

113. (New) The guide wire of claim 70, wherein the core is not tapered along its distal portion.

114. (New) The guide wire of claim 84, wherein a portion of the coil extends beyond the distal end of the core by a plurality of turns of the coil.

115. (New) The guide wire of claim 114, wherein the polymer entirely fills the internal area along the portion of the coil that extends beyond the core.

116. (New) The guide wire of claim 114, wherein the portion of the coil extending beyond the distal end of the core has a pitch different from a remaining portion of the coil.